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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,958	03/31/2004	Patrice Plante	PAT 2130-2	4887
26123	7590	08/09/2007	EXAMINER	
BORDEN LADNER GERVAIS LLP			FOUD, HICHAM B	
WORLD EXCHANGE PLAZA				
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OTTAWA, ON K1P 1J9			2616	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/812,958	PLANTE ET AL.
	Examiner Hicham B. Foud	Art Unit 2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 31 March 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-5,7-12,14-16 and 18-20 is/are rejected.
- 7) Claim(s) 6,13 and 17 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 31 March 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All
 - b) Some *
 - c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 03/31/2004
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

Drawings

1. The drawings of Figure 8 are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the aggregator must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

In page 9 paragraph 0029, the explanation of Figure 8 which provides a more detailed architecture for the system and which is also based on previous Figure (Figure 7) does not mention the claimed feature “aggregator” that is the element 202 that connects the ingress ports 101 to the MESS egress port 204.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 13 line 2, the term “the interest RAM” has no antecedent basis.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 7, 8, 10-12, 14-16 and 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Walrand et al (US 7,046,665) hereinafter referred to as Walrand.

For claim 1, Walrand discloses a time division multiplexing switch comprising: a plurality of ingress ports (see Figure 4 elements 404), each of the ingress ports in the plurality for synchronously receiving data grains at fixed time intervals (see Figure 4 wherein element 400 is a TDM switch that receives TDM traffic and see Figure 1, timeslot T1), the data grains ordered as grain groups (see Figure 4 element 408 "the classifier and see column 5 lines 25-26; the classifier evaluates the packets and determines which queue those packets should join); at least one memory egress self selection (MESS) egress port (see Figure 4, the sum of elements 408, 410, 402, 414, 412 and 406), for receiving the data grains from the plurality of ingress ports (see Figure 4 element 410; queuing) and for transmitting stored data grains in a predetermined order (see Figure 4 element 412; scheduling), the at least one MESS egress port having a data grain selector for selecting data grains from the received data grains in accordance with at least one predetermined criterion prior to storing the selected grains for transmission by the MESS egress port (see Figure 4 element 410, queuing and see column 6 lines 50-55; wherein queuing module 410 has the decision of saving the packet or dropping it based on the type of the packets (TCP or UDP)).

For claim 2, Walrand discloses a time division multiplexing switch, wherein plurality of ingress ports and the at least one memory egress self selection egress ports are equal in number (see Figure 4 wherein input ports are equal to output ports)

For claim 3, Walrand discloses a time division multiplexing switch, further including a grain aggregator (see Figure 4 element 408), operatively connected to the plurality of ingress ports (see Figure 4, wherein Classifier directly connected to input ports), for aggregating the data grains received by each of the ingress ports and for providing the aggregate to the at least one MESS egress port (see Figure 4 element 408 "the classifier and see column 5 lines 25-26; the classifier evaluates the packets and determines which queue those packets should join).

For claim 4, Walrand discloses a time division multiplexing switch, wherein the data grain selector includes an ingress processor for receiving an aggregate of the data grains received by the plurality of ingress ports (see Figure 4, wherein the direct connection to the queuing module 410), and for selecting data grains from the aggregate for storage in accordance with the at least one predetermined criterion (see Figure 4 element 410, queuing and see column 6 lines 50-55; wherein queuing module 410 has the decision of saving the packet or dropping it based on the type of the packets (TCP or UPD)).

For claim 7, Walrand discloses a time division multiplexing switch, wherein each of the MESS egress ports includes: a memory for storing the selected data grains (see Figure 4 element 410, queuing), and an egress processor for reading and transmitting

the stored data grains from the memory in a predetermined order (see Figure 4 element 412; scheduling).

For claim 8, Walrand discloses a time division multiplexing switch, wherein the ingress processor includes a memory compactor for addressing the selected data grains for storage in the memory without memory fragmentation (see Figure 4 element 410, queuing; wherein packets are queued without fragmentation).

Claim 19 is rejected for same reasons as claim 8.

For claim 10, Walrand discloses a time division multiplexing switch, wherein the memory is sized to store exactly one grain group (see Figure 4 element 410, queuing).

For claim 11, Walrand discloses a time division multiplexing switch, wherein the memory stores only the selected data grains (see Figure 4 element 410, queuing and see column 6 lines 50-55; wherein queuing module 410 has the decision of saving the packet or dropping it based on the type of the packets (TCP or UDP)).

Claim 18 is rejected for same reasons as claim 11.

For claim 12, Walrand discloses a time division multiplexing switch, wherein the egress processor includes an egress processing memory for storing the predetermined order for reading and transmitting the stored data grains (see Figure 4 element 412; scheduling).

For claims 14 and 15, Walrand discloses a time division multiplexing switch, wherein the egress processor includes an N:1 or N:M multiplexer attached to the memory for reading and sequentially transmitting the stored data grains in the predetermined order, where N is the number of ingress ports and M>1 (see Figure 4

element 412; scheduling; inherently, the scheduler must have a an N:1 or N:M multiplexer to distribute the packets and M depends only on number of output port; if there is only one output port, then the scheduler has N:1 multiplexer and if there is M output ports, then the scheduler has N:M multiplexer).

For claim 16, Walrand discloses a method of time division multiplex switching received data grains to at least one egress port, the method comprising: receiving and aggregating a plurality of data grains received in a single timeslot at a number of ingress ports (see Figure 4 wherein element 400 is a TDM switch that receives TDM traffic through input ports 404 and see Figure 1, timeslot T1 and see elements 408 and 410, wherein classifier 408 evaluates the packets and determines which queue those packets should join in the queuing module 410), each of the plurality of data grains being associated with a grain group (see Figure 4 element 410; wherein data stored in group of queues depending on the classification); transferring the aggregate of the received data grains to the at least one egress port (see Figure 4; wherein the stored data will be transmitted to the output port 406); selecting from the aggregate the data grains to be transmitted by the at least one egress port (see Figure 4 element 410, queuing and see column 6 lines 50-55; wherein queuing module 410 has the decision of saving the packet or dropping it based on the type of the packets (TCP or UDP); storing the selected data grains at the least one egress port (see Figure 4 element 410, queuing); and transmitting the stored data grains from the at least one egress port in a predetermined order (see Figure 4 element 412; scheduling).

For claim 20, Walrand discloses a method wherein the step of transmitting includes reading stored grains from the memory in a predetermined order (see Figure 4 element 412, scheduling).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walrand in view of Bianchini (US 7,031,330).

For claim 5, Walrand further discloses a time division multiplexing switch, wherein the ingress processor includes an interest memory for storing a grain mask corresponding to the predetermined grain selection criterion (see column 6 lines 49-51; wherein the queuing module 410 selects based on information received from the control module 414; inherently, the module 410 must have a memory to store those information to use for the selection). Walrand discloses all the subject matter with the exception of a finite state machine for selecting grains from the aggregate for storage in accordance with the grain mask. However, Bianchini discloses a system that uses Write and Read finite state machine for writing packets into a corresponding queue and from an input queue group into the memory. Thus, it would have been obvious to the one skill in the

art at the time of the invention to use a finite state machine as taught by the invention of Bianchini into the invention of Walrand for the purpose of writing packets into the memory, since finite state machine is an imaginary machine that is used to study and design systems that recognize and identify patterns.

For claim 9, Walrand further discloses a time division multiplexing switch having a plurality of multiplexers for multiplexing the selected data grains into the memory (see Figure 4 element 408, classifier and see column 5 lines 25-26; the classifier evaluates the packets and determines which queue those packets should join; inherently, the classifier needs to have a plurality of multiplexers for multiplexing the selected packets into the queuing module 410). Walrand discloses all the subject matter with the exception of a finite state machine for selecting grains for storage. However, Bianchini discloses a system that uses Write and Read finite state machine for writing packets into a corresponding queue and from an input queue group into the memory. Thus, it would have been obvious to the one skill in the art at the time of the invention to use a finite state machine as taught by the invention of Bianchini into the invention of Walrand for the purpose of writing packets into the memory, since finite state machine is an imaginary machine that is used to study and design systems that recognize and identify patterns.

Allowable Subject Matter

6. Claims 6 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. Claim 13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hicham B. Foud whose telephone number is 571-270-1463. The examiner can normally be reached on Monday - Thursday 10-3 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

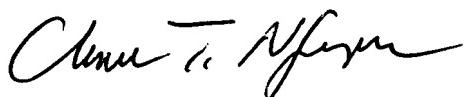
Application/Control Number: 10/812,958
Art Unit: 2616

Page 11

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Hicham Foud



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